

# PRETERM BIRTH AMONG PREGNANT WOMEN WITH SHORT INTERPREGNANCY INTERVAL; A NORTHWEST GENERAL HOSPITAL & RESEARCH CENTRE EXPERIENCE

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## ABSTRACT

**Introduction:** Preterm birth (PTB) refers to a birth that occurs before 37 weeks of gestation. The cause of preterm birth is in many situations elusive and unknown; many factors appear to be associated with the development of preterm birth, making the reduction of preterm birth a challenging proposition. Preterm birth is among the top causes of death in infants worldwide

**Objective:** To determine frequency of preterm birth among pregnant women presenting with short inter-pregnancy interval and preterm birth.

**Material and Methods:** This study was conducted at Department of Obstetrics and Gynecology; Northwest Hospital & Research center Peshawar, Pakistan. This was a descriptive cross sectional study which was conducted over a period of one year (August 2014 to July 2015). A total of 120 subjects in labour who presented with history of conception within six months of the last delivery were included in this study.

**Results:** In this study mean age of women was 30 years with standard deviation  $\pm 3.19$ . 23% patients previously had one delivery, 35% patients were grand multipara and 42% patients have more than five deliveries. Frequency of short inter-pregnancy interval was observed in 79% patients.

**Conclusion:** We conclude that women should be inform significantly elevated risk of preterm birth and perinatal death when they conceive shortly after a birth. Contraceptive advice should be targeted towards women who are most likely to have a subsequent short interpregnancy interval namely, teenagers and women who have just experienced a perinatal loss

**KEY WORDS:** Frequency, Short inter-pregnancy interval, preterm birth,

## INTRODUCTION

Preterm birth (PTB) alludes to a birth that happens before 37 weeks of development. PTB and its inconveniences are by a wide margin the main source of newborn child mortality in the United States (US). Around 550,000 untimely newborn children are conceived every year in the US.<sup>1,2</sup> In 2008 very nearly 12.3 percent of all live births were <37 weeks gestational age (GA) and 2 percent were <32 weeks GA<sup>1,2</sup>. There has been a 21% ascent in the general extent of PTB since 1990 in US. This increment in the course of the most recent two decades is reflected in all phases of prematurity.<sup>1</sup>

Hazard elements for PTB are both maternal and baby related and incorporate maternal anxiety, low financial status, discouragement, life occasions like (separation, partition, close relative demise), surgery

amid pregnancy, various incubations, polyhydramnios, primigravida, innate uterine peculiarity, fibroid uterus, cervical variables like untimely cervical dilatation or destruction, contamination like sexually transmitted diseases, pyelonephritis, an infected appendix, placental pathologies like placenta praevia and suddenness, vaginal dying, past preterm conveyance, smoking, maternal age (<18 or >40), poor sustenance and low body mass list, frailty (hemoglobin <10 g/dl) and short interpregnancy interim (IPI).<sup>3</sup>

The short IPI is one of the components connected with PTB, LBW (i.e. under 2500 g), with the most elevated danger connected with IPI of under six months. A meta-examination of reported a relationship between perinatal passing and short IPI.<sup>4</sup> Other studies bolstered the relationship amongst preeclampsia and short IPI.<sup>5</sup>

Short IPI is connected with antagonistic maternal and fetal result. A lady with short IPI has lacking time to recoup from physiological anxiety which is forced by past pregnancy. This outcomes in drained supplement stores, sickness, Infection and renovating of endometrial blood vessels(which causes Placenta Previa ,Placental unexpectedness) that inclines to over emission of cortisol which prompts up control of CRH creation in the placenta, untimely burst of fetal films which results in preterm labour.<sup>3,6</sup>

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A Portuguese study discovered noteworthy relationship between short IPI and unconstrained early PTB. Short IPI happened in 22% of early preterm births, 5.3% in late preterm births and 6.7% of term conveyances with chances proportion of 3.6.<sup>7</sup> Another study from Israel demonstrated that short IPI was fundamentally connected with expanded dangers for PTB, SGA, VSGA, early neonatal demise and inborn malformations.<sup>8</sup> A study from Missouri included 156,330 found that the supreme danger of PTB for this high hazard gathering was 16 percent.<sup>9</sup>

While a neighborhood study has demonstrated a recurrence of preterm work of 7.5%, out of which 69.75% were connected with short IPI.<sup>10</sup>

The consequences of this study were utilized to give accentuation on instruction of couples to maintain a strategic distance from pregnancies inside the time interim as characterized as short IPI. This will likewise contribute towards fetal prosperity, appropriate conventions to decrease fetal morbidity and mortality because of preterm birth. The aftereffects of this study were likewise scattered with other neighborhood wellbeing experts and future regions of exploration will likewise be distinguished.

## MATERIAL AND METHODS

This study was conducted at Department of Obstetrics and Gynecology; Northwest Hospital & Research center Peshawar, Pakistan. This was a descriptive cross sectional study which was conducted over a period of one year (August 2014 to July 2015). A total of 120 subjects in labour who presented with history of conception within six months of the last delivery were included in this study. Patients were carefully selected on the basis of specified criteria as follows;

**Short Inter-pregnancy Interval:** Conception in  $\leq 6$  months time since last delivery.

**Preterm Birth:** New born delivered after 28 weeks but before 37 completed weeks of gestation from the first day of last menstrual period.

## DATA COLLECTION PROCEDURE

Study was conducted after approval from ethical and research committee of Northwest Hospital and Research Center Peshawar, Pakistan. The purpose and benefits of the study were explained to the subjects, written informed consent was obtained after explaining them the usefulness of study and maintenance of confidentiality. In all cases, detailed history was taken and inter-pregnancy interval calculated. Observations, diagnosis and clinical assessment were conducted under the Principal investigator's supervision. All information was recorded in a pre designed proforma.

## DATA ANALYSIS

Data was analyzed using SPSS 10.0. Quantitative variables like age and parity was described as mean  $\pm$  SD. Categorical variables like inter-pregnancy interval was described in terms of frequencies and percentages. Data was presented in tables and diagrams where appropriate.

## RESULTS

Age distribution among 120 patients was analyzed as 43 -(35.8%) patients were in age range 25-30 years, 40(33.3%) patients were in age range 31-35 years, 37 (30.8%) patients were in age range 36-40 years. Mean age was 30 years with standard deviation  $\pm 3.19$ . (as shown in Table No 1)

Status of parity among 23.3% patients were mul-

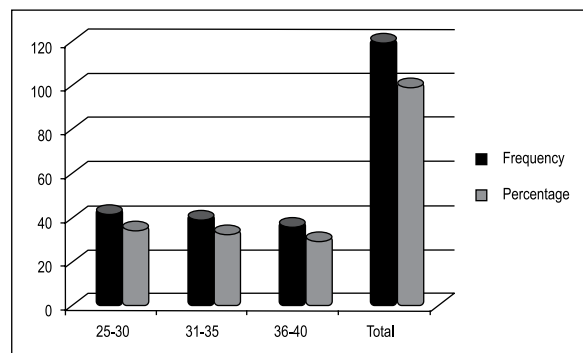


Fig No 1. Age Distribution (N=120)

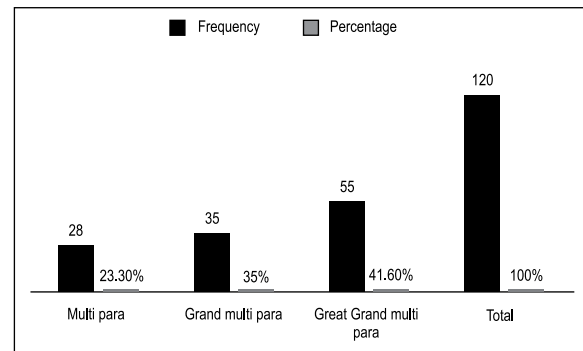


Fig No 2. Status of Parity (N=120)

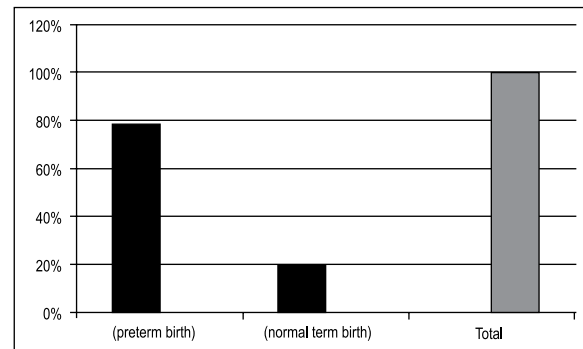


Fig No 3. Frequency of Preterm Birth Among Pregnant With Short Inter Pregnancy Interval (N=120)

tipara, 35% patients were grand multipara and 41.6% patients were great grand multipara.. (Shown in Table No 2)

Frequency of Preterm Birth was 79% among pregnant women with short inter- pregnancy interval.

## DISCUSSION

The fundamental finding of this study is that in women having a second birth a short going before interpregnancy interim was a free hazard variable for amazingly preterm birth, modestly preterm birth, and neonatal passing not because of inherent variation from the norm. The affiliation happened even among women, whose first pregnancy was a term live birth and held on after change for maternal age, conjugal status, stature, financial hardship class, smoking, past birth weight vigesimal, and past cesarean segment. The affiliation was particular to preterm birth and neonatal passing, as no affiliation existed between a short interpregnancy interim and the danger of conveying a development confined newborn child and the certainty interims were adequately thin to prohibit even a frail affiliation. When we inspected the result of all first births in connection to the ensuing interpregnancy interim, women with a short interpregnancy interim had a huge overabundance of intrauterine development confinement, preterm birth, and perinatal passings in their first births. Surely, roughly 10% of women with an interim of under six months had a first birth that had finished in perinatal passing, contrasted and under 1% of women with an interim of 18-23 months. These perceptions are steady with past studies and underline the significance of barring women with complexities in their first birth while looking at relationship between interpregnancy interim and the result of the second birth.<sup>11</sup>

An affiliation has already been appeared between maternal age under 20 years at the time birth and unfriendly obstetric outcome.<sup>12</sup> In the some studies we found that this affiliation was free of interpregnancy interim and inconveniences of the primary pregnancy. Notwithstanding, the relationship between maternal age under 20 years and unfriendly result was lessened by alteration for conjugal status, financial hardship classification, smoking status, stature, past birth weight vigesimal, and past cesarean segment, in spite of the fact that a measurably noteworthy affiliation persevered in multivariate investigation. We can't prohibit the likelihood that maternal age under 20 years is a marker for some other natural variable. In any case, it is improbable that the relationship with a short interpregnancy interim were because of unmeasured or remaining bewildering. Firstly, after change for maternal age, modification for other maternal elements had almost no impact. Also, the quality of the affiliation was for all intents and purposes unaltered when we kept the examination to wedded, non-smoking women matured 25 or more. Thirdly, no factually critical first request communications happened

between a short interpregnancy interim and other maternal elements. At long last, the affiliation was particular for preterm birth and neonatal demise. No affiliation existed between a short interpregnancy interim and conveying a little for gestational age child. Interestingly, a high financial hardship class (that is, more denied) was fundamentally connected with conveying a little for gestational age infant in multivariate analysis.<sup>12, 13</sup>

## CONCLUSION

We conclude that women should be inform significantly elevated risk of preterm birth and perinatal death when they conceive shortly after a birth. Contraceptive advice should be targeted towards women who are most likely to have a subsequent short interpregnancy interval namely, teenagers and women who have just experienced a perinatal loss

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